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By J. Smeaton Chase

CALIFORNIA DESERT TRAILS. Illustrated.

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CONE-BEARING TREES OF THE CALIFORNIA MOUNTAINS. Illustrated.

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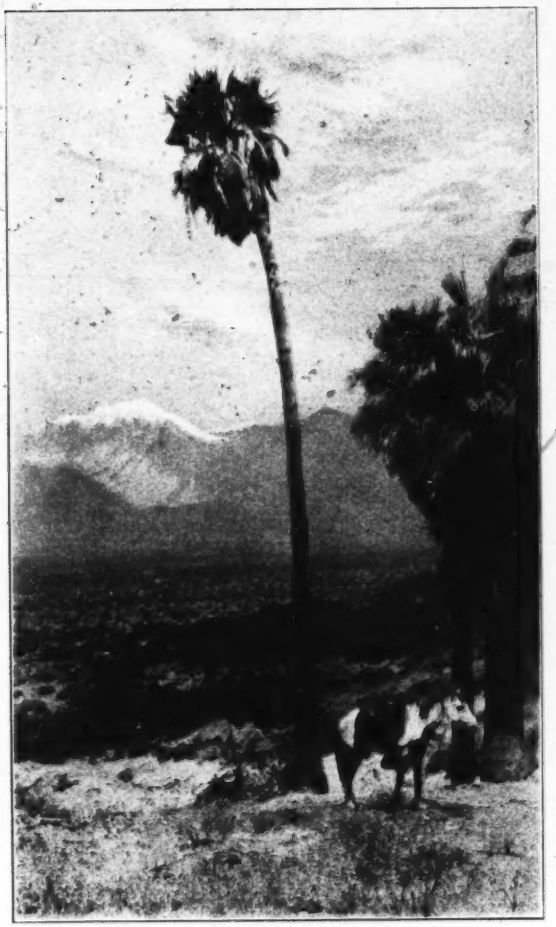
CALIFORNIA DESERT TRAILS



AT TWO-BUNCH PALMS; SAN GORGONIO MOUNTAIN IN THE DISTANCE

CALIFORNIA DESERT TRAILS

BY

J. SMEATON CHASE

WITH ILLUSTRATIONS FROM PHOTOGRAPHS
BY THE AUTHOR

AND AN APPENDIX OF PLANTS
ALSO HINTS ON DESERT TRAVELLING

BOSTON AND NEW YORK
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1919

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TO MY AUNT
IN THE LITTLE RED TOWN
AMONG THE RAINY CUMBERLAND MOUNTAINS
THIS UNCOMMONLY DRY VOLUME IS
AFFECTIONATELY INSCRIBED

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I ACKNOWLEDGE a sense of mystical reverence when first I approach some illustrious feature of the globe, some coast line of ocean, some mighty river or dreary mountain-range, the ancient barrier of kingdoms. KINGLAKE: *Eothen.*

PREFACE

THAT appetite comes by eating I have found to be as true in the matter of geography as in the affairs of the table. After long wanderings among the incomparable forests and mountains and by the romantic shores of the most scenic and diversified of our States, I fell an easy prey to the beckonings of the other principal feature of California's topography, the dreamy, dreary desert. Long ago, on short expeditions into and across it at various points, I had fallen under its inexplicable charm; now I determined to know it more closely, by daily and nightly intercourse through months of travel in its sun-blasted solitudes: gaining the experience I desired at the price, certainly, of some discomfort, and, possibly, of a trifling degree of danger — merely enough for spice.

This volume, then, is the fruit of over two years' continuous camping and travelling on the desert. It might more exactly be named "Colorado Desert Trails" than "California Desert Trails," since there are within this State other expanses of desert (such as the Mojave, contiguous on the north to the region I describe) which are not touched upon in the book. But there seemed a danger of confusion in the other name, since, on a casual sight, the word "Colorado" in the title might give the impression that the subject-matter was some region in the State of that

name. The tract I deal with is, in truth, unfortunately named — though the misfortune is accidental, since, when it was labelled, in 1853, there was no State of Colorado — and out-and-out Coloradans might justly petition our common Uncle that the mere suspicion of harboring a desert should be lifted from them and the odium plainly fixed upon the rival tourist-claiming nephew, California.

The book might have been made of more instructive value, no doubt, had the writer been a man of science — naturalist, botanist, or geologist; for in all those fields, and others that are outside my range, the desert is full of matter. Yet it may not be unfair to say that the observer whose interest is trained upon a certain aspect of Nature may be to that extent incapacitated as regards the more general or purely scenic bearings of his surroundings. And so these discursive notes may possibly bring to the reader a truer, though in some ways less explicit, impression of the country described than would be the case if they came from the pen of one who was even a fractional *savant*.

For somewhat the same reason, little is here said of the really remarkable agricultural developments which in the past few years have come over considerable portions of this intractable-seeming region. I am no farmer, know little of potatoes or alfalfa, poultry, pigs, or cattle, until the stage when they issue in finished product from the kitchen. Thus I may seem to ignore what to the practical mind must appear the chief, or even the only, items of value. I do not forget those Imperialites and Coachellans

who made hopeful suggestions — "I guess you'll boom up this section now, won't you, say? Finest land in the State" — and so on; nor their puzzled or pitying glances when I made the only possible reply, that I did not, could not, and would not boom; was, in fact, even averse to booms and boomers; and was more enthralled by desert sunsets than by desert dairies, astounding as these might be. In a word, it is the desert *as* desert — God's desert, not man's — that engaged my interest, and that, as I this moment call it up before my inward eye, seems to me the most memorable, in its totality of impressiveness, of all natural objects that I have met.

But I confess that the fascination of the untamed desert has proved to be of too subtle a quality for words of mine to render. That would necessarily be true, of course, of anybody's attempt in any field of Nature: but it would be tenfold true with respect to the desert, and I will be bold to say that it would be true without regard to the person in the case. Whether it be that the desert is too intrinsically alien to our psychology, or for some other reason, too baffling to trace, I believe it to be the fact that its genius is the rarest and the most elusive of all the elements that make up the wonder of this transcendent world. No "last word" on the desert will ever be written; no statement, I mean, that, to those who know the subject in any real degree, will not seem to fail of getting at the essence.

It is a pleasure to record botanical obligations to my friend Mr. S. B. Parish, of San Bernardino, California, whose thorough knowledge of the flora of

the desert, freely put at my disposal, was invaluable in revising the Appendix of Plants. I am indebted also to the United States Geological Survey for permission to reprint from one of their publications the "Hints on Desert Travelling" that appear in Appendix A.

In conclusion, it is most satisfactory to note that, since the following chapters were prepared, the United States Government has, by a small appropriation of funds, made at least a beginning towards bettering the conditions of desert travel by the marking of roads and water-holes.

J. S. C.

PALM SPRINGS, CALIFORNIA
November, 1918

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CALIFORNIA DESERT TRAILS

CALIFORNIA DESERT TRAILS

CHAPTER I

INTRODUCTORY

The Desert a riddle — Its charm a contradiction — Attraction of the unattractive — The desert fringe a contrast — Supremacy in color — "Opal" the word — Sand as a reflector — Sunset — Rock-color — Mountain contours — Bleached ranges — Color on levels — Rock-mosaic — Austerity of the open desert — Color-flood of spring — Sky-color — Morning and evening hues — Battles in the skies — The "wistful" quality — London *versus* the Colorado — Solitude our native air — The awe of silence — The desert as antidote.

THAT stony mystery the Sphinx, fixed in eternal reverie amid the immemorial sands of Egypt, might well stand as a symbol of the desert itself; not that desert only, but deserts everywhere. One point out of many that make up the analogy is the baffling nature of the spell that people find in the famous monument. One will say it is due to a sense of its immense age; another, that the features bear a supernatural expression, or hold some secret meaning; another feels its awe to lie in the riddle of its purpose; and another, in some supposed significance of its proportions. Similarly, the magic of the desert is a riddle. Not only does it defy putting into words, but I have never found the person who felt that he could even shape it vaguely to himself in thought.

For one thing, it is in its essence a contradiction.

The desert is the opposite of all that we naturally find pleasing. Yet I believe that its hold upon those who have once fallen under its spell is deeper and more enduring than is the charm of forest or sea or mountain. This must seem a strange statement to make, but I make it with consideration and in the light of others' experience besides my own. The beauty of great woodlands, the mystical solemnity of the sea, the power and glory of mountains — right well we love all these: yet somehow, that pale, grave face of the desert, if once you look long upon it, takes you more subtly captive and keeps you enchained by a stronger bond. It is as if you were bemused by the gaze of a sorceress: or had listened over long to some witching, monotonous strain: or had pondered too deeply on old legends of weirdry or parchments from tombs of strange, forgotten lands. Certainly it is not love, in any degree, that one feels for the desert, nor could any other single term convey the sentiment. But whatever it is, there is something of haunting in it, and it is a haunting that lasts for life.

The explanation of this puzzling allurement may lie partly in the fact that the mind of man is not steadfast in its attitude toward Nature: it seems to change in reverse, as it were, to the spirit of the time. As usual, it is the opposite that attracts. The gentler features of the earth, its flowers, meadows, quiet hills, have always met response, and most so when the times were most troublous. But the vast and the wild raised no thrills but those of dislike and fear so long as life was, in a manner, similar; that is, while

civilization was unborn or young. True, mountaineers have of old loved their mountains, but that was due, we may guess, more to appreciation of the protection they gave from foes, in times of chronic war and foray, than to any sense of their beauty and sublimity.

But now the pendulum tends to the other extreme. After centuries of home, security, satisfaction of want, we come to a revulsion. Ease and tame ways of living having reached, for most of us, the present far stage, there has arisen a zest for things rugged and wild. Hardship looks attractive, scarcity becomes desirable, starkness turns an unexpected side of beauty. If the sun that has pleased me with warmth has power to blast as well, *Homo sum*, let him try it on. If Mother Earth has rooms from which she would bar me with threats, let her make the threats good if she can. If the eye loves verdure and low, cool tones of color, let it take a Spartan course of whitest light and fiercest color-wave. These things also are part of our estate, and we cannot afford to leave them out of the accounts. Thus, the desolate, gaunt, and dreadful in Nature at last have their day: the risk is, indeed, that they may run to overvaluation. (Perhaps even the pranks of those funny fellows the "futurists," "cubists," and "vorticists," in poetry, music, and art, might be explained by this clue: civilization has got on their nerves, and they simply have to scream.)

As scenery merely, the desert is the last field that could take the fancy. The forest, even if gloomy, gives a sense of companionship, and is filled with

life and the means of life — food, fire, and shelter. The ocean, impersonal and insincere as it is, has motion and color, play of ripple and breathing grandeur of tide. The mountains give pleasant boundary to our little lives, shutting in friends and kin, shutting out strange humanity and alien climes, and vaguely gratifying the sentiment for home. But the desert yields no point of sympathy, and meets every need of man with a cold, repelling No.

There are, it is true, about the fringes of the desert, spots of sylvan beauty. Cañons break down from these sterile walls, where, following a cascading brook, cottonwoods and sycamores come trooping in verdant file, and palms hold broad fans aloft against opaque screen of rock and deep transparency of sky. In spring, mating birds find these places out, and live in transient busy colonies while they raise their broods. Flowers, under unbroken days of sun, crowd into sudden bloom, the frail annuals growing quickly and hurrying to mature blossom and seed before the last moisture is drained from air and soil. The hardier plants here keep up a lively show, noticeably strong in the primary colors, well into summer, though short will have been their shrift on the open desert. Even ferns contrive to live within perhaps a quarter-mile of the boundary of strict aridity.

But these are only local conditions, quite the reverse of typical. One feature of loveliness the desert has, however, that is essential: in one field of beauty it is supreme. That is the field of color. Professor John C. Van Dyke, who has made that fine study of the desert which takes the rank of a classic, gives to

a companion volume on the ocean the title of "The Opal Sea." A better term than "opal" could scarcely be found for describing in a word the color of the desert itself. The marvellous air, wholly free from the vapors and impurities of coast and valley places, while it sharpens detail and reduces difference of plane, at the same time throws over every object in far or middle distance a veil of lilac atmosphere wonderfully thin and transparent. Owing, perhaps, to the high power of these color-waves, the eye is hardly interfered with in penetrating shadows. As a result, one receives the full effect of every tone of color, whether in light or shade: while all come to the eye softened but enriched, and with that indefinable opaline quality that gives magic and fascination to the most poetic of gems.

The geological simplicity of sand and rock does not result, as might be expected, in poverty of color. Sand, particularly, might seem to be capable of little change of hue. But, on the contrary, its reflecting power gives it special value as a color agent, a means of taking on varying effects from the ever-changing sky. In the northwestern arm of the Colorado Desert are two great masses of sand. Flattened domes in shape, the higher one rises, I should guess, to five hundred feet above the surrounding levels. The sand probably overlies a rocky abutment of the adjacent foothills, and has been heaped there by that scarifying wind, the terror of railway employés whose lines are cast in the division which includes the San Gorgonio Pass. For months these sand-hills were in my daily view, and to describe the shades of

color I have noted on them would make tedious paragraphs. From almost snow-white they have taken, often in rapid turn, all the hues of gray, of blue, of rose, of chrome, of brown, and purple, reaching even, under gloom of storm, an approach to absolute black. Sand is actually as responsive as a chameleon, and I could never tire of the vagaries of those dunes.

But most they charmed me at sunset — that hour when the soul itself is suffused with changing hues, and comes to its best perception. Then none but warm and gentle shades are seen, and the mind, like a tranquil lake, receives them and renders them into something clearer and deeper than thought. (Is it not at evening that we most naturally and truly *reflect?*) Words quite fail to disclose the felicity of those spiritual moments of color. Like music, they speak the unearthly tongue, and it is only into music that they could be translated. I mean, of course, the real accents of the Heavenly Maid, not the new, loud, German noise which goes with the rattling of the sabre and aptly illustrates *Kultur*. Far from that, my sand-hills at evening are an *Abendlied*, a child's ethereal dream, a reverie, a sigh.

Rock, contrary to sand, gives back its own color; but here it is pure and vivid color, untinged with overlying hues of vegetation that elsewhere come in to perplex the eye. The prevailing surface hue of desert rock is a dark rust-red. I should name it Egyptian red, for in my mental picturings of the land of the Nile this same dull but powerful note rules like absolute Pharaoh. The color, however, is not inherent in the stone, which is mainly granite

A CHARACTERISTIC CAÑON-MOUTH WITH ITS APRON OF DÉBRIS

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of the common gray. But in course of ages this material, lying usually in huge slabs, has taken on a surface sheen and coloring due to weathering and baking by the sun. It is spoken of as "desert glaze," and is really something like the artificial glaze of pottery. Even when the rocks take boulder form they are generally great, house-like cubes or rhomboids, offering flat surfaces which sun and weather have painted in the same broad, strong hue. Only where cañons choked with more freshly shattered rock score the mountain walls does one catch the native tint of the granite, making a startling contrast. From these cañon mouths wide, fan-like sheets of similar débris sweep down to the level. Up these the eye ranges, higher and higher, into gloomy galleries and chasms until the thread is lost in a maze of braided folds of mountain, these overlooked often by some far, high crest, in winter white with snow, in summer gray with iron crag and precipice of granite, but always softly clouded with humanizing pines.

The characteristic contour form of the desert mountain ranges is another element in the beauty of desert color. Like geological models set on a table, they stand up sharply defined from the general level, arresting the glance with new, conspicuous effects. No gently modelled approaches prepare the eye for the change of plane. From gray or drab expanse of sand they rear up wall-like profiles of red or ochre. Perspective is dwarfed by the clearness of air, increasing the sense of verticality. Instead of rising from the desert, these mountains stand upon it, explicit, bald, almost artificial.

Whatever form of geological action may explain the peculiarities of these mountain shapes, it has resulted in a great irregularity of surface: but this irregularity is worked in small scale. The long, almost isolated spur of the San Jacinto that lies before me can only be likened to one of those vast surges one sees in mid-ocean, driven into infinite complexity by hurricane or tornado. In a mile or less of mountain-side I count ten or a dozen well-defined main cañons. They have one general trend, and score the barren, red-brown flank sharply from almost the crest down to the sudden dead level. Interwoven with these principal cleavages, meeting and crossing them at every angle, are hundreds of lesser depressions, miniature passes and divides. The result is a positive cross-hatching of intricate contours, resembling in midday light a choppy sea, giving at evening and morning a chequer of delicious color, molten gold in light, amethyst in shade; or, under sunset or sunrise warmth, like the glow of red-hot iron flecked with touches of purple more than Tyrian. I think the coldest-blooded of men would stand and gaze while that pageant was passing. For others, the experience, which can never be made stale by custom, is more than æsthetic or emotional: it is moral, I would almost say religious.

But the remark that rock gives back its own color must be qualified, for rock also responds to circumstances. The eastward extension of San Bernardino Mountain, lying beyond the sand-hills to which I referred above, gives a good example of the possibilities of this stubborn material. In actual hue the

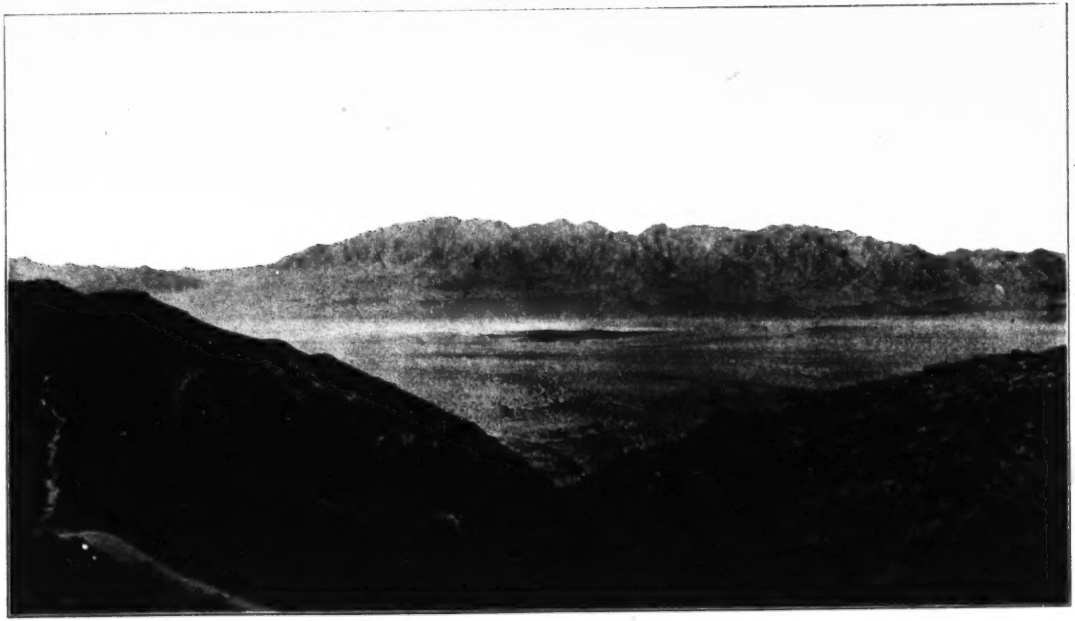
range is the usual deep reddish-brown; but under diffused sunlight I have seen it pale down to milky white, a tone that one would never suppose could come within its scope. Breaking of light-rays by vegetation is not the cause, as it might be elsewhere; for plant-life is here at its lowest volume, a joke, almost a myth, like a Chinaman's beard. It impresses one oddly, this wholesale bleaching away of essential color. Withered, ghastly, monstrously old, the mountains seem like geologic wraiths, such mountains as the ghosts of moon-men may wander among in the ashy lunar world.

The great stretches of level desert also show some diversity of color, arising partly from absence or presence (and kind) of vegetation, and partly from difference of surface material. But it is only when seen in great extent, from a good elevation, that atmosphere and grouping of shades lend enchantment. In near view, seen from slightly above the level, a vast drab, tinged usually with olive, is the general hue. The olive comes from an infinite stipple of low shrubs, so uniform in spacing — for each plant jealously guards its little territory — as to show no cloudings of heavier and sparser growth. The effect is about as lively and original as fifty square miles of tweed in "pepper-and-salt mixture." But though not themselves in the least degree stimulating to fancy, these dull plains have value as foil and foreground to the color display of ever-present hills and mountains. And when, as often may be the case, the close foreground is laid in blocks of that deep, powerful red, the landscape, though bare of any

recognized elements of beauty, yet is perfect, in its way incomparable.

In places the drab gives way to other tones. There are large extents of unmixed sand, boulders, gravel, or of pavement-like rock-mosaic in yellow, red, lava-black. On these the vegetation is so sparse as to yield no element of color. This is the desert entire and austere, the realm of geology alone among the sciences. Here Time and all things of Time seem to have ended or not to have begun. The sun rises, flames through the sky, and sets; the moon and stars look coldly down; the traveller seems to himself the last life on the planet. Awe that is close on terror grasps him: he feels himself alone in the universe — he, and God. His footsteps cease: why should he go on? and whither? for there is no whither. Nothing moves, nor can move, but the elemental wind, vacantly roaming the empty earth (and those great airs, what a sense they bring of age, of eternal solitude, of cold, sidereal space!). The life of towns, of farms, all that signifies humanity, seems totally unreal: the Great Question confronts, closes one in, and must, but cannot, be answered. At such moments, reader, you may find foothold in thoughts perhaps long unthought or cast aside — "I believe in God the Father Almighty, Maker of heaven and earth": and so on to the end. They will not now seem contemptible, I assure you.

There comes in spring, on all but these barrenest spaces, a startling interlude, a sudden wave of color. Even in the desert, Nature, though here least humane, most indifferent, longs for change, and softens



THE REALM OF GEOLOGY ALONE

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for a time at the entreaty of her most winsome child, virginal, petal-eyed Flora. It is only a transient flush, rising, culminating, and fading quickly, almost as fleeting as sunset on cloud or mountain; but it is enough: Draco does relent, Colonel Absolute has been seen playing horsey on the hearthrug. It proves the desert livable and possibly lovable: and for all the rest of the year one bears in mind that brief touch of graciousness.

In speaking of the color of the desert there remains the great field of the sky. Let not the reader stay, as I did too long, under the conventional notion of an ever-cloudless blue. Clear skies, of course, predominate, but even in summer no long time passes without grateful show of vapor — glorious white or yet more glorious gray. Nearness to the Pacific and the Gulf of California gives the sky of the Colorado Desert a degree of cloudiness far greater than that, for instance, of the Sahara, though the rainfall on our desert is as scanty as there. In both summer and winter the sun may rise, make his march, and set, day after day for weeks, in undimmed power; but at any season there will not be many mornings or evenings together without some skeiny film of rose, some shimmering bar of madder, purple, or coppery gold, though for months the sky through all the middle hours of the day may be a hard and uniform cobalt.

There is in fact a constant battle in these skies, often to be seen by interested mortals below, like the scrimmages of *pro* and *anti* deities that went on above the plains of Troy. From the spot where I

make these notes I have often looked for hours while the struggle remained in deadlock. Over the pass between San Jacinto and Santa Rosa battalions of cloud come rolling, stream out far to the east, and threaten the kingdom of the sun. But that old tyrant seldom sleeps, or, after the manner of tyrants, sleeps with an eye open, and it is hard to catch him unaware. His intrenchments are all but impregnable. Leagues of radiant air form invisible ramparts from which the invaders are continually thrown back, and ever from the heated desert new ranks of warriors come rushing up to maintain the fight. Now one side gains, now the other. Some hero of the gray leads a charge, and a tongue of vapor leaps out far in the advance, may even fling down a slant of rain or snow on the anxious pines of Santa Rosa. But before the Grays can establish themselves the Blues are at them and press them back. "A Pluvius! A Pluvius!" "Phœbus! Phœbus to the rescue!" And so it wages, to and fro, strangely and ominously like the battles of men; ominously, lest it prove that these are no farther from coming to a final end.

With all the glory of desert evening skies, I miss one accustomed element of sunset: I mean that spiritual touch, impossible to put into words, but which we know so well. Perhaps the word "wistfulness" states it best, and the desert (so you might think until you know it) is not wistful. But yet it is: to be old, weary, and wise is wistful, as much as are the young, asking eyes of a child. But wistfulness is hard to define. Why in music, for instance, should a chord, a turn of rhythm, even an interval, start

sometimes a wave that reaches boundless shores, or, sinking like a burning ruby into depths we never guessed were there, show us ourselves "as gods, knowing good and evil"? How does it come that the leaf of an autumn bramble expresses a hero's soul better than epic verses ever can? And what magic is there about sunset and the West that has always drawn men's longing (so that, indeed, for wistfulness one might fancifully say westfulness)? Is it that we feel the sun's daily going as so great a loss that we must follow him with our pensive hopes? Not so with us all, certainly. To me, for one, the sun has always seemed an enemy, the ally of tedium, a huge Evaporator sucking the spirit and leaving naught but the plodding clay. "The gaudy, babbling, and remorseless day" — well said, Shakespeare! But this is verging on metaphysics: the point is, that somehow there is not in desert sunset hues that deepest, most sensitive note. They are fairyland, a sheer marvel, the quintessence of beauty in color; but they have not the ineffable quality that goes, perhaps, with murkier, less all-revealing skies. It may be that, being mysterious to ourselves, anything less than mystery in Nature must fall short. "*Abyssus abyssum invocat.*"

As a fact, I have seen more of that moving glory in sunset skies from the top of a London 'bus than anywhere else, even Sierra crest or open vastness of the Colorado. Perhaps it is the presence of six million human souls (I do not mean bodies) that gives the needed atmosphere, the spiritual haze.

But the metaphysical must be reckoned with,

after all, to explain the strange attraction of the desert. Space, solitude, quiet — our minds at their best are tuned to these, and when they find them they expand like the anemone welcoming its native tide. The merely objective things of the desert are another and transitory matter: I am speaking of its underlying, undying charm. It is a somewhat awful attribute, with more of subjugation in it than of charm. It disembodies us, takes away what hides us from ourselves. The aged earth speaks now in solemn tone to its child, and he must listen. No friendly tree or buoyancy of wave meets the daunted eye with encouragement or excuse for levity. Here justice is the word, not mercy. The universe seems listening for your word, and appraising you by your silence. If there comes a sound it is so momentary as only to startle, swallowed up instantly in the waiting void — the thin, single note of the cactus wren, one of the lonesomest of sounds, more lost and eerie than the midnight bleat of sheep on Cumberland fells.

Is there attraction in this, then? To most people, No: to a few, Yes: and Yes to an increasing number, I think and hope, as the loud roar grows louder; the times more complex and out of joint; the strife of tongues more clever and useless; simplicity, the touchstone of good, more than ever reverend yet less than ever revered.

CHAPTER II

THE PALM OASES AND CAÑONS

Poetry of the palm — Palm cañons and oases — The desert's travel-centres — Snow Creek Cañon — Dual characteristics — Chino Cañon — The vegetation of drought — Palms, snow, and luxury — Tahquitz the Rumbler — Cave-life in Andreas Cañon — Indian relics — A palm temple — La Reina del Cañon — Cave-company — A winter storm — Narrow escape for Kaweah — Marooned — Not drowned as reported — Tahquitz Cañon, a desert Colosseum — Magnesia Spring Cañon — Tropic luxury — A night vigil for cougar — Bighorn — A cached *olla* — Deep Cañon — The ocotillo — Animal and bird life — Palms and flowers — Rattlesnake company — Thousand Palm Cañon — A palm forest — — "The Twelve Apostles" — Seven Palms Oasis — Harried by wind — Two-Bunch Palms — Unique landscapes — Wagnerian moonlight — Palm Springs Village — Its medicinal spring — Romantic Palm Cañon — "Movie" vandals — Suggestion: a National Park.

THOUGH the palm is certainly not the most beautiful, it is perhaps the most poetic of trees. In symmetry of tapering shaft, fountain-like burst of crown, and play of glossy frond, it is the ideal of gracefulness in plant life. Incidentally, there is the charm of its "atmosphere" of literary allusion, of which it probably has more than any other tree can claim. To dwellers in cold or temperate climates it brings also alluring thoughts of tropic warmth, skies normally sunny, and a life emancipated from winter flannels.

Spreading up from Northern Mexico, a number of groups of the fan-palm, *Washingtonia filifera*, are found in the cañons and oases of the Colorado Desert. They are known to but few, and those are

mainly prospectors and such stray characters, whose business or hobby makes them wanderers in that harsh region. Such human life as the desert has — that is, the actual desert, the unconquered and unconquerable wastes of burning sand and mountain — drifts and circles about these spots: necessarily so, since the presence of palms means the presence also of that rarest, strictest necessity, water. The Arabs' axiom regarding the date-palm, that its foot must be in water and its head in open sun, is true of its relative the fan-palm. Thus, in the talk of desert men the palm figures constantly. You hear of Dos Palmas, Thousand Palms, Palm Springs, Twenty-nine Palms, Seventeen Palms, Two-Bunch Palms, and so on; and the names mean to the traveller not only water, but shade, with the chance of grass for his animals, and the relief of verdure for his sorely harassed eyes.

Some of the groups occur about the boundary of the sea that anciently filled the great depression which is now partly occupied by the Salton Sea, and whose beach-mark is to-day startlingly plain at the base of the encircling hills. Such groups, probably, represent the indigenous growths. A number more are found at higher altitudes, but of these many are known to have been planted by the present or former Indian inhabitants of the region.

The westerly limit of growth is a rocky defile on the south side of Snow Creek Cañon, which is a rift of San Jacinto Mountain, about opposite White-water Station on the Southern Pacific Railway. This group marks the nearest approach made by the wild

palm to coastal conditions of climate, for the spot is within a few miles of the crest of the San Gorgonio Pass, which here forms the dividing line between California barren and California fertile. A thread of tepid water moistens the roots of the trees, while not a mile away rushes the icy brook that gives its name to the cañon.

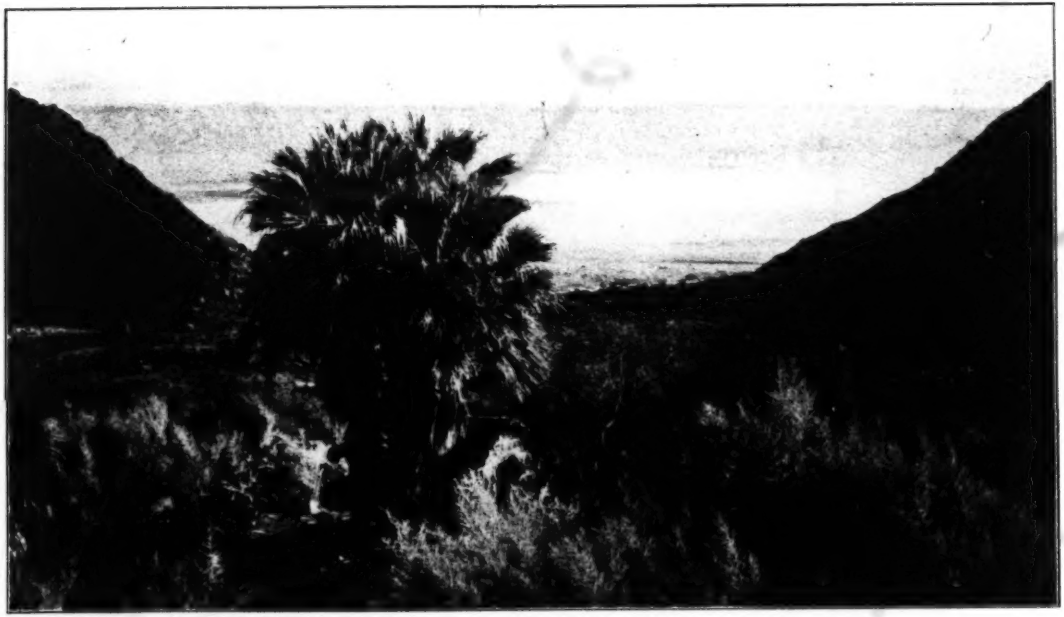
I camped, at various times, in most of the considerable cañons of the upper part of the desert. Each has its special charm, while those that come down from the high mountains that shut off desert from coast possess a dual beauty — the characteristics of a true mountain cañon, such as trees, cascading streams, and the varied life that goes with them, together with the features of a land made savage by torturing sun, unblessed by the mercy of rain. The mingling of the two elements gives often a fascinating result.

It was still winter, the end of January, when I pitched my little six-by-three-foot tent in Chino Cañon. This is a great rift opening on the northwestern arm of the desert directly under the peak of San Jacinto Mountain. It gets its name from old Chino, a former chief of the Agua Caliente Indians, whose *ranchería* adjoins the little village of Palm Springs, a few miles to the south of the cañon. I had visited the spot years before, and kept an affectionate memory of a warm spring that breaks out near the head of the great apron of talus that sweeps down from the neck of the cañon to the level desert. It was toilsome work navigating my burro, Mesquit, through these miles of boulders, with a rise from

five hundred feet to two thousand feet of altitude, and there was neither mood nor leisure for scenery until we reached the little clump of palms that marked our destination.

But when camp was pitched and serenity returned I found a high coign among the rocks and took my satisfaction. I was at about the limit of growth of the water-loving trees that accompanied the creek as far as they dared — sycamores, alders, cottonwoods, and willows. Here they stopped short abruptly, and from here desertward only the starveling vegetation of drought held the ground. The pale shrubs seemed to have copied the look of the gray boulders, as if hoping by subterfuge to escape the notice of the sun. Each bush of encelia or burroweed grew rounded and compact, and in twilight or moonlight would not be distinguished from the rocks, except where they grew among the rust-brown slabs of the cañon walls, when one would swear he saw a flock of grazing sheep, every one distinct to the eye.

Straight in front the cañon opened in steep, smooth descent, bounded by high and barren walls, the western already dark in shadow, the other in full sun and glowing with volcanic intensity of red. At three miles' distance these ran out into the level like capes extending far to sea — a sea of lifeless gray that broke southward in one huge crest of sand that was like a tidal wave stopped and held in full career. In sharp relief against the neutral hue of the sand stood the dark, gleaming fans of palms. The distance was closed by a level rampart of moun-



IN CHINO CAÑON

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tains in faint ethereal tones of rose, chrome, and amethyst.

I had not many such evening prospects during the two weeks I camped in Chino Cañon. It was a wet winter, and I was not far from being perpendicularly below the ten-thousand-and-odd-foot peak of the mountain, which was engaged in perpetual storm. After days of rain I would determine to move, at the first cessation, down to the valley, which I could often see stewing in sunshine while I shivered over an unwilling camp-fire in the rain (I don't know why it did n't occur to me to get into the warm spring and wait until the clouds had rained themselves out). But when a change came my mind changed with it and I stayed. At last there came a drop in temperature, and after three days and nights of torrential downpour I awoke one morning to find the sun shining and the mountains sheeted with snow down to a few hundred feet above camp. Then it was high luxury to lie in my thermal pool and get a startling effect of shining green palm-fronds with background of solid snow.

The Indians hereabouts have a legend that Tahquitz, *alias* Chowk, their evil spirit, lives in San Jacinto Mountain, and attribute to his operations the peculiar noises, rumblings, and so forth, that are sometimes heard proceeding from his haunts. Several times, while in this cañon, when lying on the ground at night, I heard the sounds plainly. There was no tremor of earthquake, but it is possible that the heavy rains caused a movement of the rocks on the mountain-side. The sounds,

whatever made them, were easily transmitted to me, since my ear was practically in contact with the earth. Who knows but it was "the fellow in the cellarage," old Truepenny himself?

Some miles to the south is Andreas Cañon, another of the gateways of the same mountain. It also is named after an Indian, old Captain Andreas, the remains of whose adobe hut and orchard of vines and figs are yet in evidence. Here the following winter I camped for nearly three months, gratifying aboriginal instincts by a return to cave life. The cavern which served for dining-room, study, and kitchen had been the home of Indians, and was adorned with their picture-writings, while a sort of upper story was quite a museum of age-dimmed records in red and black. One upright stone was worn into grooves like knuckles, where arrow-shafts had been smoothed; another showed evidence of having been used for polishing the obsidian points. The great table-like rock where I kept a store of hay for my horse Kaweah (Mesquit and I had had a difference and parted) was bored in a dozen places with circular holes where acorn and mesquit meal had been ground by generations of diligent squaws, whose deer-horn awls and ornaments of shell and clay I occasionally unearthed: as I did also bones in remarkable numbers and of questionable shapes.

Of Andreas, now long gathered to his fathers, the word goes that he was given to the distilling of *aguardiente* from his grapes, breaking thereby the law of the land. However, considering that the art had been learned from the whites, that he had no

voice in making the law, and that the land in question had been taken from him and his people, there seems not much logic in blaming him. Peace to your ashes, Andreas! I can certify that your fig trees still do bud, and yield better fruit perhaps than some of us.

The same striking conjunction of desert and coast vegetation rules here as in Chino Cañon. Down to the very neck, a bare hundred yards from where open desert comes in view, trees grow in full verdure, curtained in wild-grape vines that make an arbor of summer green or autumn chrome and sienna over the darkling pools of the creek. At the point where they cease they are met by a colony of palms, and these give place to the low-toned herbage of the desert. The cañon is notable for a fine rank of "palisade" cliffs, which with their massive sculpturing and dark Egyptian hue make a wonderful foil for the beauty of the palms. Some of these stand statue-like in vertical alcoves of the wall: others bend in tropic grace above crystalline pools, or spring in rocket-like curve from thickets of mesquit or arrowweed.

One cluster, arranged in the form of a great hall, especially took my fancy. The palms that compose it have kept all their dead foliage, which, hanging in straw-yellow masses about the stems, gives them impressive girth and solidity. While wind is stirring the fronded capitals, these massive pillars, standing in unbroken stillness, seem like the immemorial columns of Babylon. My nights in that strange place, worked up into mystery by glimmer of star or trickle

of wandering moonbeam through the tracery of the roof, were the sort of experience one loves to repeat in memory.

In a narrow gateway of the upper cañon stands a single stately palm, framed by tall cliffs of Egyptian red. Its solitariness, spiry grace, and statuesque pose give it special individuality, and sentimentally I allowed myself to name it "La Reina del Cañon."

Evenings by the camp-fire in the cave were enlivened by visitors, kangaroo-mice, skunks, and tarantulas, who adopted me without reserve into the ancient order of cave-dwellers. The mice were charming companions, eating beans and hardtack with me off our common plate, and only occasionally needing an admonitory rap with the spoon. By day, quail were frequent callers, aligning themselves on a shelving rock overhead to criticise my housekeeping: and once a lynx halted bashfully when ten yards from the breakfast-table. Bighorn tracks were often fresh on the cactus mesa beyond the creek, and my regular morning alarum was the practising of chromatic scales by a cañon-wren midway up the cliff.

Andreas Cañon had become endeared to me by these and other social ties when, about noon one Saturday, a gentle but persistent rain began — one of the occasions one recognizes as meant for the cooking of beans. I charged my biggest pot and passed the afternoon in holding the fire at that scientific minimum that the "free-holy"[1] justly de-

[1] The red or pink Mexican bean, *frijol* in Spanish, pronounced free-hole' or, affectionately, as above.

LA REINA DEL CAÑON

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mands and wondrously repays. The rain continued, taking on the industrious look that Californians know and love as forecasting a successful season in real estate. At intervals I brought in fuel, storing it in dry crannies of the cave.

Kaweah, protected by his heavy blanket, was tied close to the creek, under a tree against which I had built his manger. Darkness came early, and the rain increased to a heavy downpour. I ate supper in dusk, fed and watered the horse, covered the hay with a tarpaulin, and turned into the blankets on my camp-cot to smoke a pipe. This proved more than usually cheering. A tent with sousing rain were revealed as the ideal conditions for the combustion of Virginia Long-Cut. This discovery I had opportunity to confirm in the days that ensued.

Before turning in finally I lighted the lantern and took a look at the creek. It had risen a few inches, as was natural in a cañon stream, but the tent was six or eight feet above it and a rod back from the bank. Nothing to worry about, so I went to bed, and, lulled by the roar of rain on the canvas, was soon fast asleep.

This placidity was ill-judged. Some suffocating object, something heavy and wet and cold, came down and embraced me with what I felt to be undue familiarity. For a few moments I was puzzled, then realized — the tent: it had sagged with weight of water and the pegs had pulled from the softened ground. I noticed, too, that the sound of rushing water was oddly close. Pushing away the wet canvas I put out a foot. Instead of the expected boot it

encountered a cold swirl of water that came half to the knee. Next my groping hand took note of the abnormal position of the tent-pole, which leaned almost horizontal under the ruin of the canvas. I saw what had happened: the creek was over its banks, had undermined the pole and brought down the tent, and was making a clean breach through my quarters.

My thoughts flew to Kaweah. He was some twenty-five yards downstream from me and on lower ground. Struggling under the water-logged canvas I hurriedly got into my soaking clothes and somehow got clear of the tent. It was pitch-dark, raining like fury, and the water was now knee-high and running like a sluice. I stumbled down to Kaweah, who neighed shrilly when he saw me. He had taken the highest spot his rope allowed him, but the water was almost to his belly, and we were both in some danger of being swept away. Cutting the rope I scrambled with him up the bank and tied him on high ground near the cave.

Then for an hour I slopped to and fro rescuing what remained of my effects and storing them in dry corners of the cave. Not a few articles had been carried away, but most were caught under the collapsed tent, which itself was anchored by a rock against which it had stranded. It was wet work, but warming, and I soon worked up a first-rate Turkish bath.

The next need was fire. By now the cave was a poor refuge, though it might have looked enjoyable to a naiad. Rain dripped everywhere from the shelv-

ing rocks that formed at best a nominal roof, and cascades ran picturesquely down the walls. The floor was a mere bog. Only a space about three feet square was free from overhead drip, and on this islet I built a tiny fire over which I crouched in partial shelter. I supposed it was near daybreak, but on looking at my watch found it was eleven o'clock.

I cherished that fire as few things are cherished on this planet. When gusts blew the rain in upon it, I covered it with my hat. When it sulked and sputtered because the bog encroached, I fed it with splinters from my tripod. When the wind scattered the cupful of embers, I scraped them up reverently like a Parsee. At last I got a good blaze, made a billy of coffee, and settled to the night's work of drying myself, blankets, gun, camera, and "et cæteras."

The storm maintained a headlong deluge which did not moderate for a moment. The creek had risen higher, and was making wild uproar as huge boulders began to come down from the upper cañon, thundering and bumping along like barrels tumbling down a stairway. With the boulders went the trees. The one to which Kaweah had been tied (a full-grown sycamore) had disappeared soon after I moved him. Only by a few minutes had he escaped going with it. Now I watched tree after tree succumb. First their tops, which showed dimly against the sky, would begin to shiver as the water tore away the earth like a terrier at a rat-hole: then as roots broke from their grip the victim stooped lower and lower, until water and granite between them gave the *coup-de-grâce*, and the unlucky alder or

sycamore toppled over and was whirled off to make camp-fires for fortunate prospectors.

Daylight came, and with it the end of my fuel. By now the cave was worthless: water poured in steady streams from roof and walls, and the floor had become a pool. Among my salvaged traps was a little three-by-six-foot tent of light waterproof stuff which I carry on winter horseback trips. This I pitched on the highest spot available, first laying a thick stratum of arrowweed over the sodden ground. Inside I spread half a bale of dry hay: then crept in and sat tight.

This was Sunday. It passed; also Monday, Tuesday, and Wednesday, and not for a moment did the storm hold off. I read, smoked, ate, slept, and dashed out when necessary to attend to Kaweah or drive the tent-stakes deeper into the spongy earth. When I awoke on Thursday a yellow glow was brightening my tentlet. It was the sun, shining in the old, wholehearted, California way, and I hurried out to renew acquaintance. Looking up the cañon there was little that I recognized. The place where the other tent had stood could be known by a scrap of canvas projecting above a new creek-bed of dazzling, freshly scoured granite, while Kaweah's former quarters were submerged in mid-stream.

In the afternoon came Pablo, Marcos, and Miguel, to round up their remaining cattle and mourn the six or eight head that had vanished in the storm together with all their possibilities of *pesos*, *carne*, and *cuero*. Finding me in the act of replenishing the bean-pot they expressed slight Indian surprise, and

mentioned that, certain of my belongings having been picked up some miles away where the flood had carried them, it had been supposed that I was drowned. By way of congratulation they stayed to help with the beans. It was fifty years, they said, since so heavy a storm had visited the desert, and news that came later of broken dams and loss of life in the adjoining coast region made this seem likely to be true.

Just to the south of Palm Springs there is an imposing gash in the mountain wall which goes by the name of Tahquitz Cañon. The stream which debouches here rises on Tahquitz Peak, a subsidiary summit of San Jacinto Mountain and whispered to be the private eyry of Tahquitz himself. The cañon is remarkable for magnificent cliffs, forming at the mouth a cirque with walls rising sheer for hundreds of feet. This titanic Colosseum makes a superb effect by morning light, when the vast, crater-like shadow is outlined by grim though sunlit rock-bolts that guard the towering gateway. It would be a worthy portal to Avernus, and when Tahquitz has his waterfall in full blast a quite infernal uproar reigns in the confined place, while the great southern cliff, acting as sounding-board, projects a full-mouthed roar upon the ears of the villagers of Palm Springs.

Twelve miles to the southeast is Magnesia Spring Cañon (or, to give it the old Indian name, Pah-wah'-te, signifying, "the drinker"), where I made camp for a couple of weeks in early spring. It is different from the cañons already described, being a long, winding gallery instead of the usual wide-

mouthed triangle narrowing suddenly to a gorge, and is typical of strictly desert conditions. Here no "Cataracts blow their trumpets from the steep." One finds no growth of water-loving trees, for the cañon does not lead down, as do the others, from rain-compelling peaks, and only the slenderest thread of water trickles in it, for the most part underground. This was enough, however, to maintain one lovely rock-bound pool in which, by skinning one's knees, a miniature swim could be achieved. High falcon-haunted cliffs partly encircled the pool, and a couple of palms growing in a niche fifty feet above gave a tropic touch of luxury.

On arriving at the pool I found fresh tracks of mountain lion in the damp sand. My main object in this cañon was the chance of photographing bighorn, which are rather plentiful hereabouts, but there would be small prospect of these so long as lions were in the neighborhood. It would be some compensation, I thought, to add a cougar pelt to my coyote-skin mattress, so I built a brush blind twenty yards from the spring, made an early supper, and took my station, shot-gun with full charge of buckshot across my knees, seven-shooter and hunting-knife in reserve. There was a half-moon, and on the open space of sand around the spring even a small object could be plainly seen. But my warlike preparations went for naught. For five hours I crouched at *qui vive*, but no such dark shape as I looked for came pacing across the moonlit sand. A fox trotted by, stopped with paw upraised, and trotted on: and later I made out a group of shadowy

forms sixty yards away that certainly were bighorn, the first I had met in their own haunts. My nerves tingled: suppose the cougar were stalking the band! But the moon sank behind the cliff, and when I could no longer see my gun-sights I concluded that the coyote-skins would do very well alone, and turned in. The next two nights I again sat on watch, and not unprofitably, though with no result of cougars. It is in the purity and stillness of such hours, in tranquil fall of moonbeam on rock and shrub, and in such sense of awful but calming solitude, that one learns, by the sacredness of Nature, the beauty of God.

The face of the cliff near the spring showed a number of likely crannies, which I searched for Indian relics. Most of them were packed with bits of stick or cactus, the *caches* of those punctilious thieves the trade-rats. In a side cañon, however, I found a handsome *olla* (or ka'-wo-mal, to give it the Indian name). It had been hidden in a breakneck place, fifty feet up a precipitous cliff, where I glimpsed it by chance. It stood upright on a bed of earth that must have been carried up from below, and was protected by slabs of rock with padding of palm-fibre. Probably it had held water, perhaps stored in case of siege, but that had long vanished, and it contained nothing but a deposit of dust almost intangibly fine, like dust of mummies or of Time itself, which had somehow gathered in spite of the neck being closed with a flat fragment of rock. I suppose this mysterious dust would distil, in course of ages, from the upper ether itself, some product of

cosmic disintegration. How many years the *olla* had stood there is matter for free guessing — perhaps fifty, perhaps five hundred. Its circumference was over fifty inches, and its capacity about eight gallons. A furious wind was blowing that threatened to throw me from the cliff and gave me trying moments, but hugging *olla* with one arm and cliff with the other I got my prize safely down.

Next I moved some miles farther south to Deep Cañon (To'-ho of the Indians, commemorating some "hunter-who-never-gets-his-game"). This is a cañon of Santa Rosa Mountain, opening just west of the long, rocky point that runs out on the desert at Indian Wells. It is notable for its vast apron of débris, through which Mesquit and I struggled for endless hours, being forced at last to make a dry camp when nightfall overtook us in a jungle of cholla. In the morning we soon reached water, and also the ocotillos, the view of which in flower was my special object here. Since first meeting the plant the previous year I had looked forward to camping among them when in full blossom, as these now were (it was the middle of March), and so entering them in my lasting book of remembrance.

I have described this remarkable plant of the Western deserts in another chapter. Here I pitched my tent in a thicket of them, enjoying their splendor of color by day and their weird shadow-play on my moonlit canvas at night. The dead canes and stumps made an excellent camp-fire, burning with a white flame, as of wax, that justified the plant's alternative name of "candle-wood." Near by were

AN INDIAN *OLLA* CACHED IN A CAÑON-WALL

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specimens of the agave, or wild century-plant, some just beginning to send up their giant flowering-stalks. Measuring the rate of growth of one of these I found that it gained five inches in twenty-four hours.

Tracks of bighorn were plentiful about camp every day, and their deeply worn trails marked the cañon walls in all directions. Often at night the rattle of falling stones told of their movements on the cliff-side above. Wild-cat and coyote also left their footprints in my absence. I met here a flock of the interesting piñon-jays, which long puzzled me by their unjay-like traits, as they flew swiftly along the face of the mountain, uttering a wild, sweet, plaintive cry. Who ever heard of a plaintive jay! Eagles, too, I often saw, and ravens croaked from unscalable crags. Friendlier birds were the acrobatic flycatchers and phainopeplas that performed from the tops of the agaves, and a pair of rose-breasted linnets that regularly came to breakfast and made me long confidences in happy *cavatina*. The cactus wrens gained my respect by the nonchalance with which they treated the formidable chollas. Since the nightingale prefers to lean her breast against a thorn, it seems a pity she cannot try the effect of a cholla.

A tramp at dawn up the higher cañon was full of pleasure. At the point where it narrows to the main ravine the stream became a series of cascades linked by many a circling pool so fishable in look that there was pathos in the thought that they must be forever troutless. As the cañon doubled and twisted, the walls became ever higher and more precipitous.

When the sun came up, the western cliff became the battlements of some castle in the realm of faëry. I often halted in wonder as some reach opened before me, filled with mystical light. The conjunction of extreme beauty of color with savagery of giant walls and thundering water gave a strange effect of unreality.

A few isolated groups of palms were set high up on the walls. They seemed to have a conscious air, as if they had been waiting until now for first recognition. Mountain-sheep make these lonely groves their shelter in summer heat and winter storm; but human foot, unless perhaps some Indian hunter's, may never have been set in them.

On little benches here and there I came upon delightful beds of flowers, usually of one kind. Here I first met the exquisite malvastrum, in delicacy and fragility more like some hothouse product than the child of desert sand and sun. Those who know the globe-tulip of our coast mountains may picture this as a blossom of the same ethereal character, but palest lilac instead of white, and stained at the base of each petal with a spot of carmine. A plant with half a dozen of the lamp-like flowers is as fairy-like a thing as a child could dream. Another new acquaintance was the fagonia, a low-growing relative of the creosote, having starry blossoms of pale magenta. Dwarf lupines occupied stretches of pure sand, and eschscholtzias, with pale yellow flowerets comically small, showed the effect of drought upon the magnificent *copa de oro* of the coast. On the driest places, exposed to the sun's full blast, the lovely little

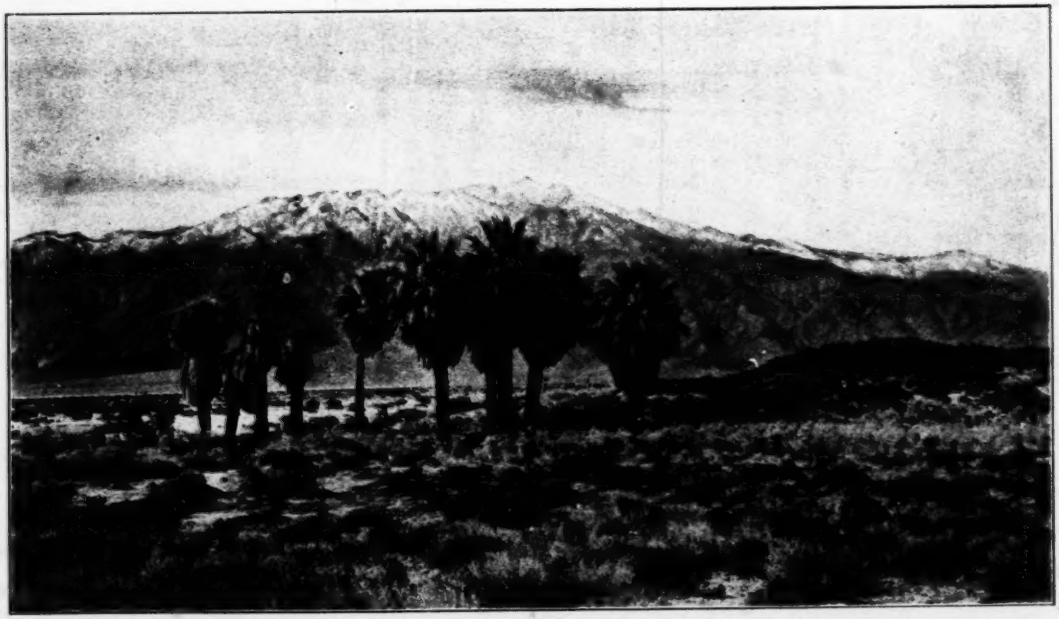
eremiastrum, or desert-star, looked up, winsome as daisies on an English lawn.

Upon returning to camp I found the first rattlesnake of the season had arrived and was enjoying my blankets in the tent. He seemed firm but calm, as if open to any reasonable offer. While I sought a tripod he vanished. In the night I felt something creeping over my chest under the blankets, and with panic remembered my visitor, who might have come to claim a share of the accommodation. I made a really brilliant jump, struck a match, and met the reproachful gaze of a large, stout, comatose lizard that was searching affectionately for the nice warm bedfellow who had suddenly turned unkind.

Crossing to the east side of the desert, here not many miles wide, a wonderful spectacle is seen in the crowding groves of Thousand Palm Cañon. In this wide gallery, opening from the foothills of the San Bernardino at near sea-level, the palm seems most thoroughly at home, growing in companies of hundreds that make what might almost be termed a forest. One has a sense of strangeness in threading these pillared aisles. One's steps rattle harshly on a pavement of dry yellow leaves whose mahogany-brown stems, long, tough, and thorny, impose care in walking, while the mind does not easily ignore the thought of snakes, tarantulas, and scorpions that find the deep dry cover highly agreeable to their constitutions. The summer temperature here is of the hottest, for weeks ranging daily over 100° in the shade, and often over 110°, with not infrequent excursions into the hundred-and-twenties.

A few miles out on the plain another group shows a distinctive feature of chance arrangement. Twelve palms stand approximately in line, and the number has given them the name, "The Twelve Apostles." Local fancy takes pleasure in pointing out that one of them is headless and dead, the result of lightning-stroke. This, of course, is Judas, and verily there is something infamous in the mean, misbegotten shape. Nothing in the vegetable world is so hideous as a headless palm. Other trees when killed or decayed have at least the touch of the grotesque or pictorial. The palm that loses its head loses all: there remains merely a hateful stick, not even pathetic, only sinister.

Out on the wind-swept plain to the east of Palm Springs lies the oasis of Seven Palms. The name does not now describe the group, though no doubt it once did so. Placed here and there in picturesque mode, singly or in twos, threes, and one larger cluster, a score or so of *Washingtonias* inhabit a space of a few acres, surrounding a pool of alkaline water. Years ago a settler made a homestead here, and his flat-roofed, unpainted dwelling, weathered into drab conformity of hue, merges with gray thickets of arrowweed. The charm of the place, apart from its palms, is in the grandeur of its mountain prospect, dominated to the south by colossal San Jacinto, whose two-mile height soars close at hand, undwarfed by intervening foothills. San Gorgonio rises somewhat more distant, but not less superb, a little to the west. The spot has a special drawback too — the pestilent wind which blows down the pass for days



SEVEN PALMS AND SAN JACINTO MOUNTAIN

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and weeks, or, for aught I know, months and years, together, making the daylight hours a misery, the nights a howling nightmare. Relief could generally be found, however, by the margin of the pool, and always enjoyment in noting the quaint, humorous ways of the bird and animal life that resorted there.

Four miles farther north, near the foothills of the San Bernardino, are twin colonies, which have given the place the name of "Two-Bunch Palms." Growing at the edge of a little bluff they are finely placed; and from among them one gets again vistas of those two great peaks, always claiming the gaze, whether serene under cloudless blue, hallowed with snow, or darkly freighted with storm. Such things are unique in American landscape, and send one's thoughts wandering for comparisons to Ararat, Ruwenzori, or famed Kashmir.

I shall not soon forget one spring night when, beneath these palms, I was for once near the intoxication point of moonlight. For hours I lay unable to sleep, while I was showered with moon arrows, "passionately bright," that streamed from the polished fronds as they thrashed and undulated in a screaming wind. It was the Valkyries' ride translated into moonlight, but outdoing Wagner, almost beating the incoherencies of Strauss.

The village of Palm Springs, ten miles to the south, has some fame as a winter health resort. It also offers the tourist, by comfortable accommodations, the means of exploring with ease a few of the palm communities. In the village there is a valuable medicinal spring, which rises, with a tempera-

ture of 103°, beneath a flourishing cluster of palms. The spring is on the Reservation of the Agua Caliente Indians, and the bath-house is operated for their financial benefit. It is a new, crude affair, and I confess I enjoyed more the quite primitive contrivances of a few years ago, when to the weird sensation produced by the gulpings and gurglings of the spring, which is a kind of quicksand in consistency, was added the excitement of guessing whether the rickety little hut would fall to pieces while you were taking your bath or would spare you and collapse over the next comer. This zest of adventure has now been lost, as has also the healthful exercise of pursuing the key all over the Reservation to its lair in the capacious pocket of old Maria's wrapper of antique, well-washed blue.

The arm of desert that reaches southward from the village ends in a long, winding ravine known as "Palm Cañon." Hundreds of palms grow here along the course of a romantic stream, bending in dreamy beauty over glassy reach and pool, or disposed in natively artistic attitudes on the lower slopes of the cañon walls. The combination of arrowy brook, wild ravine, and tropic multitude of palms makes the spot an enchanting one, and it never fails to draw a tribute of surprised approval from even the callous globe-trotter. In winter and spring a feature of contrast is added when one may catch from some high viewpoint the gleam of San Jacinto's snow. Then it is a scene over which artists rave, the note of white giving the last touch to a landscape already crowded with powerful colors.

Naturally, those nuisances the motion-picture people have seized on Palm Cañon for their antics, with the result of setting fire to some of the finest of the palms. But why repine? Rather let us rejoice that Nature is thus honored in serving Art. Hardly less picturesque than Palm Cañon is the adjacent Murray Cañon. Here again clusters and files of palms give brightness to a ravine sombre with high-piled rocks. Not far away are Eagle and Andreas Cañons, similarly beautified with these graceful trees.

It is much to be desired that some square miles of this locality, with Palm Cañon as a centre, should be set aside as a National Park. Scenically the place is more than remarkable; it is strictly unique for this country, as well as strangely beautiful: while for its botanical rarity alone it should be preserved in the public interest. As facilities for reaching it improve, ever larger numbers of people will come to view this bit of pure Arabia that has somehow fallen within our territory. As it is, I am expecting shortly to find installed at the strategic point a notice-board, a fence with little gate, and a cool highwayman collecting dollars, halves, or quarters — "whatever the traffic will bear."

CHAPTER III

TREES AND TREE-LIKE GROWTHS

Flora's gifts to the desert — The palm — The two mesquits — Nature's great benefaction — Deep-rooted mesquits — Cicadas — A mesquit-clump camp — The Gambel quail — Beans for all — The tree that bears screws — The palo verde, green but leafless — Laburnum of the desert — A desert Goliath — The smoke-tree — A transformation — Complaint of a layman — The desert willow — The ironwood: a desert forest — The affectionate cat-claw — Desert mistletoe — A vegetable pirate, the Joshua tree — The ocotillo, epitome of the desert — A miracle of blossoming — The saguaro, giant of the cacti — An elf-owl hotel — Sunset and the saguaro

CONTRARY to the general notion, the desert is far from being neglected by Flora. Even in the matter of trees, she has denied to a few valuable and interesting kinds the territory they would have preferred, and has bestowed them on these unkind regions, where they are a first-class boon to the scanty animal life that shares their hardships. There is a good assortment of shrubs too; and of the smaller growths a surprisingly large number, though it is only in spring that most of these show themselves. For the rest of the year they exist only in embryo as seeds, or as a final minimum of brittle stems and shrivelled leafage, making no contrast in the universal drab, yet the hope and support of the forlorn cattle that stray "with melancholy steps and slow" about the parched and starving ranges.

Among the trees, the palm *Washingtonia filifera* claims first place (though I always feel that the name of tree hardly applies to those columnar shapes,

so opposite to our thought of out-reaching branch, shady gallery, and spreading contour). But I have spoken of the palm at length in another chapter. And, after all, it is rather an incident of the desert than a characteristic, appearing only sporadically and as a rule about the margins of the territory, limited always to the rare spots that yield the needful conditions of moisture.

The principal desert tree is the mesquit. Of this there are two species, differing in size, mode of growth, and some other details, the most noticeable of which is the seeding. The larger, *Prosopis glandulosa*, bears a typical bean, the other, *Prosopis pubescens*, a unique seed-vessel exactly like a rather large screw. From this feature the latter tree takes the name of "screwbean," or *tornillo*, the Spanish word for screw.

The larger mesquit is the one great benefaction of Nature to her desert-dwellers. Were it only in the matter of shade, what songs should be raised to it by man, bird, and beast; and indeed are raised by sparrow, wren, linnet, and, to the best of his ability, by that arch black sprite, phainopepla, who thinks the topmost spray of a mesquit the cap of the universe! Reptile and insect revel in it too, for, as I write these pages under the shade of a mesquit (driven from my tent by a mid-morning March temperature of 108°), I am buzzed and bitten by gnats and flies of all degrees, cobwebbed by spiders, explored by serious beetles, and adopted by caterpillars as a happy idea: while nimble lizards scamper about sniping my tormentors. Every mesquit is

a green caravanserai, and one that is patronized to the full.

These islands of shade are naturally the preferred spots for camping-places by desert travellers, and that they have been so from of old may be known by the presence near them of unusual quantities of the broken pottery that everywhere amazes one by tokens of the large populations that the desert once supported. In places, mesquit thickets may still be found that extend for miles, though near the railway great stretches have been cleared for cultivation, and the wood, which makes excellent fuel, is regularly sold in the towns and cities of the coast. The aboriginal passion for rabbit would itself render these thickets the pick of desert real estate to the Indian, for they are always alive with bouncing bunnies, easy targets for his arrows or throwing-clubs.

The mesquit is also evidence of water, though not necessarily of water near the surface, as in the case of the palm. Far down below the burning surface sands the great cable-like roots of the mesquit go searching for the beds of water-bearing gravel, and the plant that shows only a five-foot tangle of thorny scrub aboveground may have roots running to ten times that depth. As the sand is constantly heaped higher about the mesquit by the wind, the plant struggles to keep its head above the drift, and in places, as at Seven Palms, mile-long dunes have formed that show a mere fuzz of twigs aboveground while your feet may be tripped by the great cylindrical roots, as thick as your leg and almost as hard and rigid as iron, from which the sand has been

blown away. In examining a small one of these roots, with a thickness of about two inches and looking like a smooth brown rope stretched taut, I noted that in a distance of twenty feet it showed no variation of diameter.

Besides its boons of game, fuel, shade, and possibly water, the mesquit yields food for man and beast and insect. The vivid young green of late February becomes tinged in March with clouds of fragrant yellow catkins. This is the bonanza of the thrifty desert bees: now or never they must re-stock those rows of empty golden honey-pots in the rocky cranny of the hillside, and they go to the work with all the proverbial ardor, plus the stimulus of needful haste. Later the mesquits form the great harborage for those most objectionable creatures the cicadas. All day the thickets ring with their nerve-racking pipings, like the whizz of steam escaping under high pressure. I frankly hate these insects for their way of dashing out and squirting at one a spray of some vile secretion. I was puzzled to account for these disgusting anointings, which fell upon me even at night, until, camping under a big mesquit near Indio, I tracked the offenders down.

That camp, by the by, deserves description as illustrating the possibilities of growth of the mesquit. Other wayfarers, probably Indians or Mexicans, had used the place before me, and had spent no little labor on making it convenient. From the outside it was a dome-shaped, isolated clump, a hundred yards or so in circumference and perhaps fifteen feet in height. A sort of tunnel had been cut

leading to the centre, which when reached revealed the fact that the whole clump was one enormous tree. The short butt, a yard or so in diameter, broke into several big recumbent branches which went rambling about on hands and knees, all crooks and elbows, and threw out a young forest of twigs and branchlets cantankerously thorny. Near the main stem there was ample space and head-room for camp quarters, and the friend who left his comfortable Pasadena bungalow to visit me there had no fault to find with the accommodation, though he had now and then with the temperature. It was pleasant at odd hours to listen to the conversations of a family of Gambel quail that shared our mesquit with us, pater's loud clear call, or quieter admonishment of Mrs. G., answered by absent-minded twitterings or headlong scamperings of the youngsters.

At this camp Kaweah had to be picketed outside, but in a similar mesquit clump, that furnished me quarters for a week a few miles farther on my way, a stable had been installed by some predecessor, with manger and room for two or three horses. There was ample space here also for an average family's camp requirements.

The mesquit yields excellent food for both man and beast. One authority says that the bean, of which husk and all are used, contains over fifty per cent of practicable food elements. The Indians nowadays do not call on it to the extent they did formerly, when the meal ground by the squaws from the beans of this plant was the staple of their diet, though they still use it freely: but horses and, need-

less to say, the omnivorous burros and the desert cattle rejoice at sight of a bean-hung mesquit. Many times, during expeditions that took us far out of range of orthodox fodder, the situation has been saved for Kaweah by our finding a mesquit or two, the twigs pendent with plump clusters and the ground whitened with the fallen fruit. I sometimes feared that dislocation of the neck would be his portion as I watched his giraffe-like manœuvres over the capture of some coy, high-hung *bonne bouche.* Nature did a kind turn to her deserving poor when she reserved the mesquit for the desert.

The screwbean is a more spindling tree, sparser of foliage, and content with poorer alkaline soils where the other mesquit seldom cares to dwell. It is equally good, perhaps even better, as a source of food, but has little to offer in the way of shade — a mere thin grayness that scarcely breaks the stroke of the sun. In the diary of that fine Borrovian character, Fray Francisco Hermenegildo Garcés, who was roaming these deserts, with the enthusiasm of an explorer as well as of a missionary, in the years just about the birthtime of this nation on the other side of the continent, one easily identifies the tornillo when he writes that he has found a tree that bears screws. Flora had one of her quaintest fancies when she fashioned these odd seed-vessels, which one finds sprinkled in tousled clusters all over the tree.

Next in size to claim attention is the palo verde, *Cercidium torreyanum.* To give the Spanish a literal translation, it would be the "green stick," or, more suavely, the "greenwood tree." It has no recognized

English name, and to speak of it as the greenwood tree raises a most incongruous association of ideas. Shades of Arden, what a difference! Yet the Spanish name, taken literally, is apt enough, for green the tree certainly is, vivid green and green all over: only one must banish all thought of whispering forest and woodsy lawn.

An odd thing is that this very green tree is a tree almost without leaves; at least, the leaves are so small, and so short-lived as well, as to cut little figure in the general effect. It is the skeleton of the tree — trunk, branches, branchlets, and twigs — that is green, a green vivid and smooth, though the butt of a very old palo verde may be roughened and blackened by age. Such scanty foliage as the tree puts forth in spring, in response to some old vernal urge still strong after ages of forced adaptation to desert conditions, falls by early summer, and leaves the airy, broom-like branches bare against the china blue of the sky. Often the branches are hung with great globes of the desert mistletoe (*Phoradendron*) so dense as to look like bee-swarms, adding to the remarkable appearance of the tree.

The palo verde, however, is a miracle for bloom. In mid-March it takes a tinge of yellow, and soon each twig becomes a jewelled chain, petals of whimsical gold set with chips of ruby for anthers. Its other Spanish name, *lluvia de oro*, shower of gold, then fits it well. For charm and profusion of bloom it is the desert's premier tree, and reminds me often of that glory of England's spring, the laburnum. Ah, those Thames-side gardens, spilling their over-

flow of lilac and laburnum over old rosy brick walls! Those sea-washed Devon villages, each cottage plot a bower of floral gold! Those steep lakeland streets which I used to climb with you, lady of my dedication, to the dark-firred Beacon, each garden raining yellow largess upon its neighbor next below! Excuse the lapse, good reader, and in return I will wish that you may never know the sharpness of exile.

His aunt!

On the side of usefulness the palo verde has its virtues as well. Its beans are grist for the pestle and mortar of the Indian squaw; and though usually a small tree, it is capable of growth to a size that would furnish lodgment to man. There is a palo verde near the mouth of Deep Cañon that I take to be the Goliath of its tribe. The trunk at its narrowest aboveground is eight and a quarter feet in girth, the largest limb five feet around, and the space covered by the tree has a circumference of seventy yards. For the desert, that is a triumph of tree growth. I do not know of another palo verde that comes to half its size.

The smoke-tree, *Parosela spinosa*, may hardly be called a tree, though sometimes tree-like in size of stem. More common than the palo verde, it is always a strange and noticeable object. It, too, is leafless, but it is wholly pale gray, a mass of prickly interlaced twigs that at a distance has much the look of a cloud of smoke. It is the characteristic plant of the desert "washes" or water-courses. I have often found the beds of these fugitive streams filled for miles with this ghostly semblance of a river. To see this phantom river come winding out, snake-

like, upon the plain from some red, mysterious cañon brings nightmare thoughts of the grim genii, Thirst and Famine, that might here have their abode.

In early summer one may see this torrent turn suddenly from gray to liveliest color. The smoke-tree, like the palo verde, makes up for absence of foliage by a huge burst of blossom. In this case it is blue, the purest ultramarine, each tree a cloud of small, pea-like flowers that as they shrivel and fall collect in windrows like drifts of azure snow. (Another name for the tree is indigo bush, though the true hue of the blossom is not indigo: yet another is desert cedar, which is totally without point.) Some day a painter will chance upon this sight, and at danger of death by thirst will refuse to move from the spot until he has fixed upon canvas the desert at its highest color power. He had better, though, be a painter unusually reckless of his reputation, for all the world will swear he lies.

The smoke-tree gives me occasion to voice an old grudge that I have long held against the botanical tribe. Harmless, even kindly, as botanists in general appear, how is it that they take delight in embittering the lives of laymen by their eternal juggling with the names of genera and species? If they really wish to discourage us poor "popular" chaps, all right; let them say so and we can turn to something lighter, say eugenics, or those frivolous things, conic sections. For many a year the smoke-tree and its relatives were known to all the world as of the genus *Dalea*. To-day the puzzled amateur finds that

name tacked to a quite different class of plants, and only by chance recognizes his old acquaintance under the title of *Parosela*. And this is but one case in a long and grievous list. When I hear of convocations of botanists I smile and say, "This is no innocent convention. What are they up to now?"

Often found near the smoke-tree in the gravelly washes is the desert willow, *Chilopsis linearis*. It is not really a willow, and only slightly resembles that tree in its leafage and irregular shape. In size, however, this often becomes a genuine tree, and I have found specimens with trunks two feet thick and an area of thirty yards diameter or more. The notable feature of this tree also is its flower, which is a large, fragile, orchid-like blossom, white relieved with lavender and yellow, and very delicately scented. There is something childlike about it, a hint of dainty pinafores in the crinkled edges of the petals: altogether a rare, undesert-like bloom. In the withering summer heat of a torrent bed there is refreshment in meeting these airy blossoms with their fresh, cool look and gentle fragrance — a thought of violets and primroses in mossy woodland ways.

The desert willow blooms profusely and remains long in flower. The fruit is a long, narrow bean, which, on shedding its seeds, leaves the tree hung with silky gray pods that flutter in the wind like pennons on the lances of Indian warriors.

One true tree remains, the ironwood, *Olneya tesota*, called *arbol de fierro*, or *palo fierro* (alternative *hierro*) in Spanish, meaning iron-tree or ironwood. This is a sturdy, trim, well-branched growth reminding one

of a well-shaped apple tree. The foliage is abundant, yielding welcome shade, and the wood is exceedingly hard and makes excellent fuel. Its dull-blue flowers are not specially attractive, and it bears beans that, so far as I know, are not eaten by man or beast, though I have seen my horse nibble the young leaves with a resigned air when sugary mesquit, humdrum galleta grass, and even that furniture-polish sort of stuff, burro-weed, have all left us in the lurch.

The ironwood has not a wide range, and one might travel the desert for a long time without meeting it. In the northeastern part of the Colorado Desert, not far from the river, there is a little-visited range of hills called the Ironwood Mountains, or sometimes the McCoys. On their southern outskirts I rode for hours through what, for the desert, might be called a forest of these trees, some of which had trunks more than two feet in diameter.

There is a widely distributed, straggling bush that at a cursory glance looks rather like an unthrifty mesquit. It is the cat-claw, *Acacia greggii*, an affectionate creature that grapples you to its soul with hooks of steel and loves to keep you there, taking a double hold for every claw you gently disengage. The leaf is mesquit-like, but smaller and finer, the blossom also similar, a fuzzy catkin, and the fruit a curious curly bean that dries into gouty-looking contortions. You will not go far on the desert without meeting the cat-claw, nor will you part without cursing it.

A feature of all desert trees, except the palm, is

the great quantity of mistletoe, *Phoradendron californicum*, they often carry. It is a common thing to see mesquits in which one half of the bulk of the tree is made up of dense masses of this parasite. It has no leaves, but in spring carries berries of a pretty coral color. Though classed by botanists as a "false" mistletoe, it has, I know, played the good old Christmas part with entire success.

In speaking of the ironwood as the last true tree of the desert, I must not overlook three other plants that in size may deserve the name — the tree-yucca or Joshua tree, the ocotillo or candlewood, and that giant of the cacti the saguaro. They are hardly to be thought of as trees, however, but rather as growths allied to trees, but wanting in almost all tree-like features.

The first is *Yucca arborescens*, of the tribe of that "Spanish bayonet" which is so common about the foothills of Southern California and so noticeable for its gigantic spike of cream-colored flowers. The Joshua tree (so named, it is said, by Mormon immigrants who, meeting these eccentric growths as they neared the end of their long march, hailed them as heralds of the promised land) is more typical of the Mojave than of the Colorado Desert, but it extends southward into the mountain ranges that divide the twin desolations.

It is a weird, menacing object, more like some conception of Poe's or Doré's than any work of wholesome Mother Nature. One can scarcely find a term of ugliness that is not apt for this plant. A misshapen pirate with belt, boots, hands, and teeth

stuck full of daggers is as near as I can come to a human analogy. The wood is a harsh, rasping fibre; knife-blades, long, hard, and keen, fill the place of leaves; the flower is greenish white and ill-smelling; and the fruit a cluster of nubbly pods, bitter and useless. A landscape filled with Joshua trees has a nightmare effect even in broad daylight: at the witching hour it can be almost infernal.

The ocotillo, *Fouquieria splendens* (commonly but wrongly taken for a cactus), is to me the most striking and characteristic of the desert plants. In it are expressed the desert's intrinsic qualities, its haggardness and gray sterility, its cruelty of thorn and claw, its fierce, hot beauty. In a landscape crowded with these lean, sinuous shapes, as one finds them filling great tracts of the barrenest desert of the Colorado, one feels an added wildness and fascination. Of the cacti, a few are really beautiful, many interesting or quaint, others ugly but grotesque. The beauty of the ocotillo is the beauty of Cleopatra or Carmen, fierce and fatal. The scarlet streamer that comes in spring at the tip of every stem is like a darting dragon's tongue. A company of ocotillos writhing in a hurricane makes as eerie a sight as anything I know in the vegetable realm.

In shape the ocotillo is a sheaf of thin, whip-like canes from six or eight to twenty feet long, spreading more or less widely from a main stump near the ground. The canes are closely armed with curving thorns, which give the plant a cactus-like appearance. For nine or ten months of the year it stands gaunt, leafless, seemingly lifeless, and one strange

DESERT-BRUSH: OCOTILLOS THE MAIN FEATURE

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feature is the suddenness with which, on the coming of the rains, it changes from dead, dry gray to living green. Small leaves appear as if by magic and feather the canes with vivid green. The canes themselves become a delicate lavender; even the thorns put on a half-inviting look and entice the unwary to closer acquaintance. Then a flower-spike starts from the tip of each cane, and bursts into a flame-like tongue a foot or so long, made up of scores of tubular scarlet and yellow blossoms.

I have been told that the flowers of the ocotillo are used as food by some of the desert Indians. I tried them once, but failed to find them attractive. But I had no recipe: perhaps they should be served with a tarantula sauce, or stewed with lizards' tails.

The giant cactus, *Cereus giganteus* (Spanish *saguaro*), is a common object of the Arizona deserts, but in California is only represented to the extent of a few individuals, probably not many over a hundred all told, that have gained a footing on the western bank of the Colorado. It, too, is an abnormal plant, but not an ugly one. Indeed, it is beautiful in an outlandish kind of way, but so far is it removed from all the shapes that we think of as trees that it might be a type of vegetation belonging to Mars or the moon.

Ordinarily the saguaro, for ten or fifteen feet of its height, is a single dark-green column, regularly ridged or fluted, and set with rosettes of spines. Then it sends out arms, one or very few, which stand up parallel with the main stem; or it may divide into a number of equal branchings, taking the form of

a candelabrum. A mature saguaro may be fifty feet high or more, but the tallest specimen I found on the California side of the river was not over forty feet. It was an odd-shaped, untypical growth, with a few stumpy arms that looked as if they had been amputated.

In nearly every saguaro one finds a number of neat round holes, the entrances, originally, to woodpeckers' nests, but often used rent free by that quaint little goblin the elf owl, *Micropallas whitneyi*, the Tom Thumb of his tribe, hardly six inches high when full grown. My tallest saguaro must have had a score of these holes, a veritable hotel or skyscraper of owls. I was disappointed that I could not make camp beside it, but I think I can warrant any other traveller who may do so some pretty weird music for his lullaby.

The plant bears large waxy blossoms that grow directly on the stem and branches, and the fruit is a first-class luxury to the Indians.

When the red flood of sunset comes on those great plains and hill slopes, where no other object breaks the far expanse, while the ancient river moves silently on to the lonely gulf and the mysterious sea, and the traveller's steps halt under that old spell of evening, then the dark, upward-pointing finger of the saguaro gives an added solemnity to that impression of the vast, unchanging, and elemental which is the eternal note of the desert.

CHAPTER IV

THE SMALLER CACTI, SHRUBS, AND FLOWERS

The cacti, children of the desert — The *biznaga* or "nigger-head" — An emergency water-supply — The villainous cholla — A cactus that jumps — The Devil's Garden — A torturing imp — Deer-horn cactus and the cactus wren — Gorgeous blossoms — Beware of *basilaris* — Fish-hook cactus or *chilito* — The ubiquitous creosote-bush — Solitude and monotony — Arrowweed thickets — Protective shapes — Desert holly — The self-defensive agave — Indian confectionery — Baking mescal — A floral surprise, the desert lily — The encelia or incense-plant — Billows of bloom — An ambiguous color — The desert verbena — Rose-purple acres — A memorable spring flower show.

THE desert is the kingdom of the cacti, for the cacti are the special offspring of the desert. With ingenious pains Nature has wrought out this unique family, fitted to endure the very reverse of ordinary plant conditions. Their part is to hold the frontier that meets the Empire of Drought, and they are shaped and armed for the task. Since leaves yield too much to evaporation, spines and thorns are adopted. Rainfall being a matter of doubt, the cactus models itself on the canteen, and fills up to the limit when it gets the chance. And since a canteen is a temptation to thirsty tramps such as jack-rabbit and coyote, the spines are hooked, barbed, clawed, and made as generally troublesome as possible. Yet, it seems as if when the matter of blossoms came up, Nature's heart relented: she could not bring herself to fashion a forbidding flower.

After the giant saguaro, described in the previous

chapter, the barrel cactus, *Echinocactus cylindraceus* (*biznaga* or *viznaga* of the Mexicans) is the one that first claims notice. Here and there about the rocky hillsides and mesas stand these odd shapes, upright cylinders from two to six feet high. The surface is beautifully fluted and covered with a close network of spines three or four inches long, hard as ivory and sharp as needles, real works of art. On the top of the cylinder there comes in spring a circle of papery, rose-like, lemon-yellow flowers. They sprout directly from the cylinder, making a dainty pale gold coronet that seems strangely out of place on that preposterous tousled "nigger-head" (as the plant is sometimes called).

This portly vegetable is, as I suggested, really a reservoir of water. The interior is a sponge of water-holding tissue, protected from evaporation by the leathery skin. Desert men, of course, know all about this convenient arrangement, and draw upon it at need: and many a life forfeited to the thirst-demon would have escaped out of his hand if the doomed wretch had but known the secret. He is an unwise man, indeed, who dares that demon without the key to many of the desert's problems.

The process of tapping this source of water is simple enough. The top of the "barrel" is cut off; a depression is scooped in the pulp; the surrounding tissue is crushed by pounding with axe-helve or anything that will serve as a pestle; and then a clear liquid, rather flat in taste but quite drinkable, will gradually exude into the hollow that has been made in the pulp. Like Samson's conundrum, "Out of the

eater came forth meat," one may say of the *biznaga*, "Out of the drinker came forth water."

Next, if not first in obtrusiveness, is the cholla (pronounced choy'a), *Opuntia bigelovii*. First it certainly is in villainous traits and in the ill-regard of every desert traveller. It is an ugly object three or four feet high, with stubby arms standing out like amputated stumps. The older parts are usually black with decay, the rest of a sickly greenish white, and the whole thing is covered with horrible barbed spines, uncountable in quantity and detestable in every regard. It has, moreover, a very vile habit of shedding its joints, and these roll by instinct into the places where they can most easily achieve their purpose, which is to stab the feet of horses and spike pedestrians through their boots, as they readily can do. Every one who has travelled with horses on the desert has had the job of ridding his animals of these devils, which in many places grow so thickly that to dodge them is out of the question. The Indians say that they jump at you: this sounds like an exaggeration, but upon my word I don't know. Often when I have felt sure that I passed clear of a certain cholla I found he had me after all.

I remember some years ago crossing the Devil's Garden, a great cactus thicket between the Whitewater Wash and Seven Palms. My companion and his Arizona cow-pony were both old desert habitués and past-masters in cactus, while my mount also hailed from the Arizona ranges, where cactus is "the daily round, the common task." Yet our combined sagacity came far short of keeping us out of trouble.

First one and then the other of us had to stop, kneel in the roasting sand (with the sun at somewhere about 140° Fahrenheit), and pull out one by one the long, barbed thorns from the feet and knees of the wincing animals. In these minor surgical operations we gradually lost sight of each other, and it was not until long after dark that we met again at our designated camp at Whitewater.

The cholla is the general enemy. In autumn, when the range is at its poorest, I have often seen cattle in horrible distress from a great lump of this fiendish plant that had got hooked on to their muzzles as they searched for browse. At every attempt to feed, the tormenting imp of course took a stronger hold. As one cannot come near these half-wild cattle of the ranges except by lassoing them, many an unlucky steer has died of starvation from sheer inability to pick up feed.

I could willingly devote a chapter to abusing the cholla. Enough, however, to add that the blossom is of a pale, unwholesome green, hardly noticeable; and that if the plant bears any helpful or even innocent part in the scheme of things on this planet, I should be glad to hear of it. I do, indeed, remember to have seen hornets in search of building-sites inspecting the cholla with evident approval, but that hardly counts for a virtue.

Prominent almost everywhere in the view is another cactus, often called, from its branching, antler-like habit, the deer-horn cactus (*Opuntia echinocarpa*). Unobservant people are apt to confuse this species with the last-named, and call it cholla. If

one should do so, it would be proper to apologize. Without being a saint, one may object to being taken for a murderer. The deer-horn grows in spreading shape to a height of six feet or more, a maze of bristling ramifications that form the favorite nesting-place for one of the desert birds. Here the cactus wren builds and broods, as secure from snakes and other enemies as if she were housed in the interior of a hedgehog. I have once seen the nest of this bird in a true cholla; probably the device of some supercareful mother who had had unfortunate experience in speaking with the enemy at the gate.

The deer-horn bears a rather pretty flower of an uncommon brownish green or bronze hue, seen, I think, in this plant alone.

Less frequently met is a species much like *Echinocarpa*, but with stems and joints much thinner, and thorns fewer though not less aggressive. This is *Opuntia ramosissima*. It bears a small brown flower, a hue that Flora does not greatly love. But though she is no Quaker, variety is her breath of life, so even brown is adopted as a novelty.

The handsomest of all the cactus blossoms, to my mind, is that of *Cereus engelmanni*, which grows usually in company with the two foregoing species. The plant looks like a colony of a dozen or so spiny cucumbers, set up on end, generally under the shade of a creosote bush or in the lee of a boulder. I have no grudge against this fellow, who bites only if you strike him. The blossom is a most charming one, a sheeny, rose-like cup of superb purple or wine color, crowded with golden-anthered stamens and with a

pistil breaking into soft green plumes that curl as daintily as a moth's antennæ. One who is on the desert in spring should on no account miss the sight of this exquisite flower.

Almost as handsome is the blossom of another common desert cactus, *Opuntia basilaris*. This is one of the flat-lobed or "pancake" species, and is similar in general habit to the common tuna, prickly pear, or Indian fig. The flower-buds sprout in a row from the edges of the lobes, and make a fine show with their cups of silky cerise. This plant, like the tuna, is valuable to the Indians, who achieve a special delicacy by cooking the young buds in a pit heated with hot stones.

But let the unwary beware; there is more in the *basilaris* than meets the eye. The lobes have a downy, innocent look, spines apparently absent. "Trust her not, she is fooling thee." The velvety surface is covered with myriads of infinitely fine prickles that come off at the lightest touch and form a sort of plush on the rash person's skin, almost invisible but most aggravating to the touch. The removing of them, though a fine exercise in patience, is one of the most melancholy occupations that I know.

All the foregoing bear cup-shaped, papery blooms of what may be called the usual cactus character. There is a quaint little cactus, not very common, *Mamillaria tetrancistrus*, usually only two or three inches high, that has an entirely different flower. It is claret-color, fleshy, and vase-shaped, and bears for fruit a bright coral-red vessel like a tiny *chile*,

AN OASIS WATER-HOLE